
**State of California
The Resources Agency
Department of Water Resources**

**EXHIBIT D
STATEMENT OF COSTS AND FINANCING**

**Oroville Facilities
FERC Project No. 2100**



January 2005

This page intentionally left blank.

TABLE OF CONTENTS

1.0	GENERAL PROJECT DESCRIPTION	D-1
1.1	Overview.....	D-1
1.2	Existing Power Features	D-1
1.3	Existing Environmental and Recreation Commitments	D-3
2.0	PROJECT DEVELOPMENT COSTS	D-5
2.1	Original Project Costs	D-5
2.2	Value of Project at License Expiration	D-5
3.0	ESTIMATED COST OF PROPOSED CONSTRUCTION	D-6
3.1	Proposed New Development	D-6
3.2	Proposed Protection, Mitigation and Enhancements	D-6
4.0	AVERAGE ANNUAL COST OF THE OROVILLE FACILITIES.....	D-7
4.1	Cost of Capital	D-7
4.2	Local, State, and Federal Taxes	D-7
4.3	Depreciation or Amortization.....	D-7
4.4	Annual Operations and Maintenance Costs.....	D-7
4.5	Annual Costs of Existing Oroville Facilities	D-8
4.6	Projected Total Annual Cost of Oroville Facilities	D-8
4.7	Capital and Annual Cost of Proposed Environmental Measures	D-8
4.7.1	Generation	D-8
4.7.2	Environmental Measures	D-9
5.0	ANNUAL VALUE OF EXISTING OROVILLE FACILITIES POWER	D-15
6.0	REVENUES AND FINANCING.....	D-16
7.0	COST OF LICENSE APPLICATION.....	D-17
8.0	ON-PEAK AND OFF-PEAK VALUES OF PROJECT POWER (2005)	D-18
9.0	ANNUAL INCREASE OR DECREASE IN GENERATION AND POWER VALUES	D-19
9.1	Generation Values	D-19
9.2	Power Values.....	D-19

LIST OF TABLES

Table D.4.5-1. Annual costs of Oroville Facilities	D-8
Table D.4.7-1. Estimated costs for PM&E measures—No-Action Alternative	D-10
Table D.4.7-2. Estimated costs for PM&E measures—Proposed Action	D-11
Table D.4.7-3. Estimated costs for PM&E measures—Alternative 2	D-13
Table D.9.1-1. Effect of Alternatives on generation at the Oroville Facilities	D-19

LIST OF FIGURES

Figure D.1.1-1. Oroville Facilities features location map	D-2
---	-----

EXHIBIT D STATEMENT OF COSTS AND FINANCING

The following information is provided in compliance with the requirements of CFR 18, Chapter 1, Subchapter B, §4.51(e).

1.0 GENERAL PROJECT DESCRIPTION

1.1 OVERVIEW

The Oroville Facilities (FERC Project No. 2100) were developed as part of the State Water Project (SWP), a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. The main purpose of the SWP is to store and distribute water to supplement the needs of urban and agricultural water users in northern California, the San Francisco Bay area, the San Joaquin Valley, and southern California. The Oroville Facilities are also operated for flood management, power generation, water quality improvement in the Delta, and recreation and fish and wildlife enhancement.

FERC Project No. 2100 encompasses 41,100 acres and includes Oroville Dam and Reservoir, three power plants (Hyatt Pumping-Generating Plant, Thermalito Diversion Dam Powerplant, and Thermalito Pumping-Generating Plant), Thermalito Diversion Dam, the Feather River Fish Hatchery and Fish Barrier Dam, Thermalito Power Canal, Oroville Wildlife Area (OWA), Thermalito Forebay and Forebay Dam, Thermalito Afterbay and Afterbay Dam, and transmission lines, as well as a number of recreational facilities. An overview of these facilities is provided on Figure D.1.1-1. The Oroville Dam, along with two small saddle dams, impounds Lake Oroville, a 3.5 million acre-feet (maf) capacity storage reservoir with a surface area of 15,810 acres at its normal maximum operating level.

1.2 EXISTING POWER FEATURES

The hydroelectric facilities have a combined license generating capacity of approximately 762 megawatts (MW). The Hyatt Pumping-Generating Plant is the largest of the three power plants with a capacity of 645 MW. Water from the six-unit underground power plant (three conventional generating and three pumping-generating units) is discharged through two tunnels into the Feather River just downstream of Oroville Dam. The plant has a generating and pumping flow capacity of 16,950 cubic feet per second (cfs) and 5,610 cfs, respectively. Other generation facilities include the 3 MW Thermalito Diversion Dam Powerplant and the 114 MW Thermalito Pumping-Generating Plant.

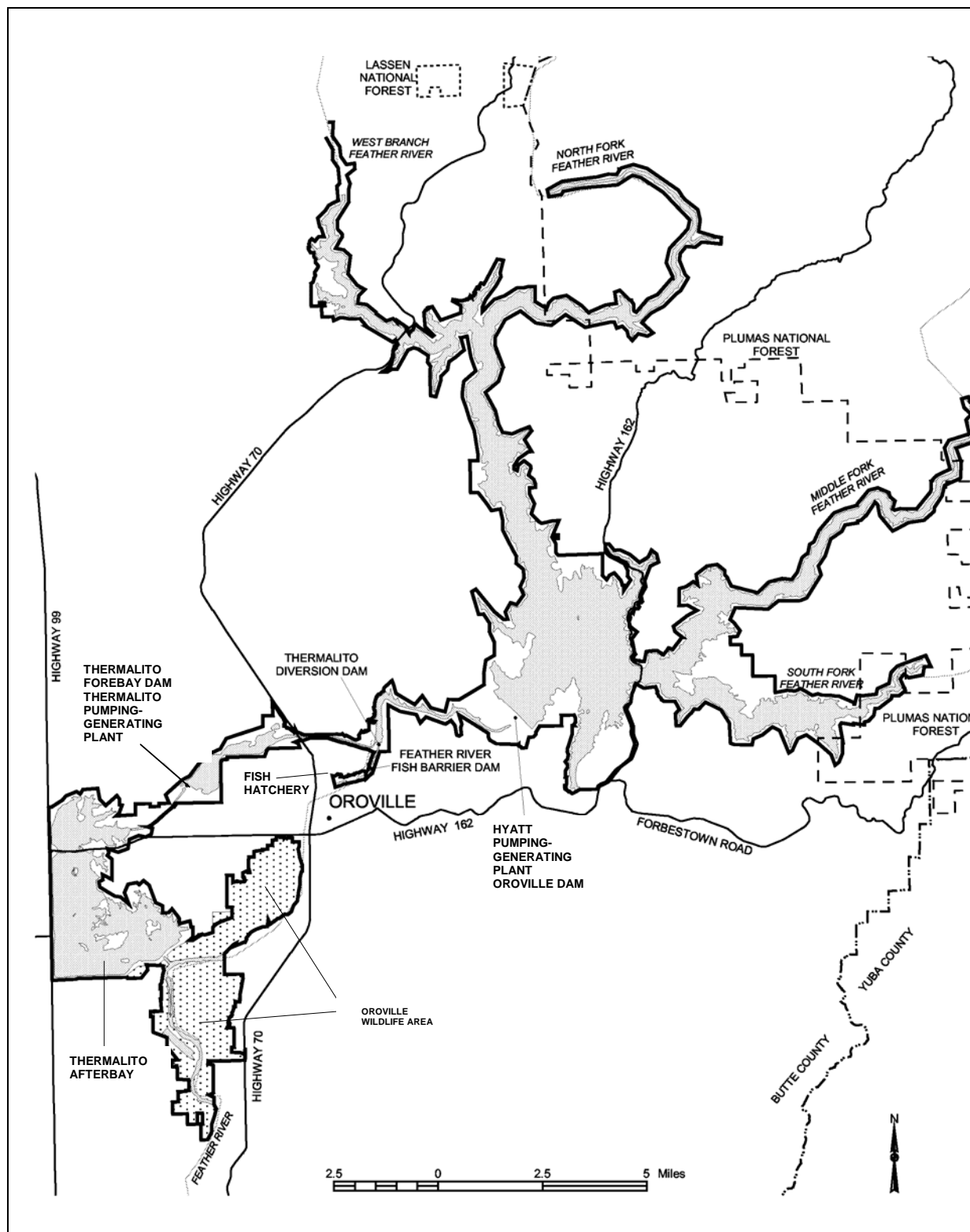


Figure D.1.1-1. Oroville Facilities features location map.

Thermalito Diversion Dam, four miles downstream of the Oroville Dam creates a tail water pool for the Hyatt Pumping-Generating Plant and is used to divert water to the Thermalito Power Canal. The Thermalito Diversion Dam Powerplant is a 3 MW power plant located on the left abutment of the Diversion Dam. The power plant releases a maximum of 615 cfs of water into the river.

The Thermalito Power Canal is a 10,000-foot-long channel designed to convey generating flows of 16,900 cfs to the Thermalito Forebay and pump-back flows to the Hyatt Pumping-Generating Plant. The Thermalito Forebay is an off-stream regulating reservoir for the Thermalito Pumping-Generating Plant. The Thermalito Pumping-Generating Plant is designed to operate in tandem with the Hyatt Pumping-Generating Plant and has generating and pump-back flow capacities of 17,400 cfs and 9,120 cfs, respectively. When in generating mode, the Thermalito Pumping-Generating Plant discharges into the Thermalito Afterbay, which is contained by a 42,000-foot-long earth-fill dam. Thermalito Afterbay is used to release water into the Feather River downstream of the Oroville Facilities, helps regulate the power system, provides storage for pump-back operations, and provides recreational opportunities. Several local irrigation districts receive water from Thermalito Afterbay.

1.3 EXISTING ENVIRONMENTAL AND RECREATION COMMITMENTS

The Feather River Fish Barrier Dam is downstream of the Thermalito Diversion Dam and immediately upstream of the Feather River Fish Hatchery. The flow over the dam maintains fish habitat in the low-flow channel of the Feather River between the dam and the Thermalito Afterbay Outlet and provides attraction flow for the hatchery. The Feather River Fish Hatchery, an anadromous fish hatchery, was built to compensate for the loss of spawning grounds and rearing areas for returning salmon and steelhead trout and their offspring; the spawning grounds and rearing areas were lost due to construction of Oroville Dam. The hatchery has recently accommodated more than 20,000 adult fish and 15 million young fish annually.

The Oroville Facilities support a wide variety of recreational opportunities. These opportunities include: boating (several types), fishing (several types), fully developed and primitive camping (including boat-in and floating sites), picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, and hunting. There are also visitor information sites with cultural and informational displays about the developed facilities and the natural environment. There are major recreation facilities at Loafer Creek, Bidwell Canyon, Spillway, North and South Thermalito Forebay, and Lime Saddle. Lake Oroville has two full-service marinas, five car-top boat launch ramps, ten floating campsites, and seven dispersed floating toilets. There are also recreation facilities at the Visitor Center and the OWA.

The OWA comprises approximately 11,000-acres west of Oroville that is managed for wildlife habitat and recreational activities. It includes the Thermalito Afterbay and surrounding lands (approximately 6,000 acres) along with 5,000 acres adjoining the Feather River. The 5,000 acre area straddles 12 miles of the Feather River, which includes willow and cottonwood-bordered ponds, islands, and channels. Recreation areas include dispersed recreation (hunting, fishing, and bird watching), plus recreation at developed sites, including Monument Hill Day Use Area, model airplane grounds, three boat launches on Thermalito Afterbay and two on the river, and two primitive camping areas. California Department of Fish and Game's (DFG) habitat enhancement program includes a wood duck nest-box program and dry land farming for nesting cover and improved wildlife forage. Limited gravel extraction also occurs in a number of locations.

2.0 PROJECT DEVELOPMENT COSTS

2.1 ORIGINAL PROJECT COSTS

This application is not an application for an initial license, and therefore a tabulated statement providing the actual or approximate original cost is not required under CFR 18, §4.51(e).

2.2 VALUE OF PROJECT AT LICENSE EXPIRATION

The Department of Water Resources, an agency of the State of California, operates the Oroville Facilities as a municipality as that term is defined in § 796 (7) of the Federal Power Act (USCS §§791 a), and therefore, the valuation requested under Section 4.51(e)(2) of FERC's regulations is not applicable to the Oroville Facilities.

3.0 ESTIMATED COST OF PROPOSED CONSTRUCTION

3.1 PROPOSED NEW DEVELOPMENT

No operational changes, new facilities, or facility upgrades are proposed by the applicant to improve power generating potential of the Oroville Facilities.

3.2 PROPOSED PROTECTION, MITIGATION AND ENHANCEMENTS

Operational changes or additional facilities to accommodate environmental, fishery, and recreation enhancement measures are being determined through a negotiated settlement agreement process. Costs for any facilities currently under consideration can be found in Section 6.2 of the Preliminary Draft Environmental Assessment (PDEA) document.

4.0 AVERAGE ANNUAL COST OF THE OROVILLE FACILITIES

4.1 COST OF CAPITAL

DWR does not have shareholders and therefore does not finance projects with equity capital. Original, as well as new construction, is financed through the issuance of Revenue Bonds.

In 1994, DWR completed repayment of the original 1964 Oroville Facilities Revenue Bonds, and therefore carries no debt related to the original construction.

Costs of borrowings for new construction that has taken place since the original facilities were completed are reported in Bulletin 132, an annual publication produced by DWR and available on the following web site:

<http://www.swpao.water.ca.gov>

4.2 LOCAL, STATE, AND FEDERAL TAXES

As a State Agency in California, DWR is not subject to payment of any state, local, or federal taxes associated with the Oroville Facilities.

4.3 DEPRECIATION OR AMORTIZATION

Annual debt service payments on outstanding bonds used for State Water Project facilities, including the expansion and improvement of Oroville Facilities are detailed in Table 14-11 of Bulletin 132-02. This report is dated January 2004.

4.4 ANNUAL OPERATIONS AND MAINTENANCE COSTS

Average annual operation and maintenance costs for the Oroville Facilities is \$14,890,000. This figure includes operation, maintenance, and station power. Annual renewals and replacements, major infrastructure repairs/improvements and capital components of the ongoing environmental and recreation program are estimated at approximately \$5,926,000 per year.

DWR performs routine annual maintenance work on the Oroville Facilities and makes capital improvements to ensure efficient operation of the facilities.

4.5 ANNUAL COSTS OF EXISTING OROVILLE FACILITIES

Table D.4.5-1 shows the current annual costs of the Oroville Facilities.

Table D.4.5-1. Annual costs of Oroville Facilities.

Annual Cost Item	Amount
Levelized Bond Cost (1)	\$10,046,000
Operations and Maintenance (2)	\$14,890,000
Existing Environmental/Recreation Measures (3)	\$9,090,000
Capital Improvements/Additions (4)	\$5,926,000
Amortized FERC Relicensing Costs (5)	\$4,722,000
FERC Annual Charges (6)	(included in O&M – see below)
Transmission Wheeling	N/A
Total	\$44,674,000

- (1) Levelized Bond Cost is based on a residual of \$153,700,000 in outstanding revenue bond principal.
- (2) O&M costs include operation, maintenance, & station power, but excludes pumpback energy costs.
- (3) Refer to Table D.4.7-1 below for the cost basis for existing environmental and recreation measures and programs; this annual figure does not include the additional capital costs associated with ongoing measures under the No-Action Alternative. They are included in the Capital Improvement line item.
- (4) Estimated levelized annual value of major equipment renewals and replacements and infrastructure repairs/improvements
- (5) Based on a total of \$65 million in relicensing program expenditures through January 2005
- (6) Annual administrative charges DWR has paid to FERC for the period beginning 1996 through 2002 are:

1996	\$374,600	2000	\$147,400
1997	\$307,300	2001	\$38,300
1998	\$383,200	2002	\$53,200
1999	\$274,700		

4.6 PROJECTED TOTAL ANNUAL COST OF OROVILLE FACILITIES

DWR, State and Federal resource agencies, Indian Tribes, and other stakeholder groups participating in the Oroville Facilities relicensing process are currently negotiating the PM&E measures that will help DWR to continue operating the facilities in a cost efficient manner over the term of the new FERC license. The PDEA defines the preferred alternative. See Chapter 6.0 Developmental Analysis of the PDEA for further discussion of the annual costs and benefits of the Oroville Facilities, when PM&E measures anticipated under the new FERC license are considered.

4.7 CAPITAL AND ANNUAL COST OF PROPOSED ENVIRONMENTAL MEASURES

4.7.1 Generation

Certain measures proposed or recommended by stakeholders during the relicensing effort would affect project economics by adding to the energy production cost (i.e.,

requiring new capital expenditures or additional annual costs for operation and maintenance). Other measures considered under the Alternatives as described in Chapter 3.0 of the PDEA would reduce future power production from the Oroville Facilities, thereby reducing annual power benefits. Table D.9.1-1 in Section 9 of this Exhibit illustrates how proposed operational changes considered under the various alternatives would affect future power generation by the Oroville Facilities.

4.7.2 Environmental Measures

The cost of each PM&E measure is an annualized cost represented over the 30-year period of analysis. Tables D.4.7-1, through D.4.7-3 show the capital, annual operating and aggregate annualized cost for the three Alternatives estimated in the PDEA.

**Table D.4.7-1. Estimated costs for PM&E measures—
No-Action Alternative (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Temperature Criteria/Targets	\$12,130	\$80
Natural Salmonid Spawning and Rearing Habitat	\$0	\$556
Salmonid Genetics	\$0	\$0
Feather River Fish Hatchery	\$0	\$1,625
Lower Feather River Fishery	\$0	\$985
Fishery Management	\$0	\$234
Thermalito Afterbay Terrestrial Habitat	\$8	\$73
OWA Terrestrial	\$0	\$10
Vegetation and Wildlife Management	\$12	\$27
Water Quality	\$0	\$50
Recreation— P2100 (general, incl. trails, restrooms, wildfire evac. plan, law enforcement, final RMP, and monitoring)	\$244	\$210
Bidwell Canyon BR/Campground/DUA/Marina	\$0	\$550
Loafer Creek BR/DUA/Campground/Group Campground/Equestrian Campground	\$10	\$675
Lime Saddle BR/DUA/Campground/Marina	\$0	\$425
Spillway BR/DUA	\$164	\$575
Enterprise BR	\$0	\$125
Vinton Gulch Car-top BR	\$0	\$30
Dark Canyon Car-top BR	\$0	\$40
Foreman Creek Car-top BR	\$0	\$170
Stringtown Car-top BR	\$0	\$50
Lake Oroville Visitors Center	\$0	\$340
Saddle Dam Equestrian Facilities and Trailhead Access	\$38	\$25
Bloomer Area BICs	\$0	\$40
Goat Ranch BIC	\$0	\$40
Foreman Creek BIC	\$0	\$40
Craig Saddle BIC	\$0	\$40
Oroville Dam Overlook DUA	\$0	\$25
Floating Campsites and Floating Restrooms	\$0	\$385
Upper North Fork Arm and Poe Powerhouse	\$0	\$0
Diversion Pool DUA (Northwest side)	\$0	\$25
Lakeland Boulevard	\$71	\$10
Recreation – Low Flow Channel/Feather River Fish Hatchery	\$30	\$25
North Thermalito Forebay	\$0	\$475
South Thermalito Forebay	\$0	\$80
Thermalito Afterbay—Wilbur Road BR	\$7	\$25
Thermalito Afterbay—Larkin Road Car-top BR	\$0	\$25

**Table D.4.7-1. Estimated costs for PM&E measures—
No-Action Alternative (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Thermalito Afterbay—Monument Hill BR/DUA	\$0	\$100
Model Aircraft Flying Area	\$27	\$25
OWA—Thermalito Afterbay Outlet BR/DUA/Campground	\$0	\$25
OWA Dispersed River and Pond Access Sites	\$0	\$10
Dispersed Use Sites	\$0	\$0
Cultural Resources	\$0	\$0
Land Use, Management, and Aesthetics	\$0	\$40
Annual Estimate of Future Recreation Capital Improvements and Replacements	\$0	\$800
TOTAL CAPITAL AND ANNUAL COST	\$12,741	\$9,090
LEVELIZED ANNUAL COST	\$10,016	

*Notes: BIC = Boat-in Camp; BR = Boat Ramp; DUA = Day-Use Area
Source: developed by MWH*

**Table D.4.7-2. Estimated costs for PM&E measures—
Proposed Action (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Temperature Criteria/Targets	\$12,130	\$80
Natural Salmonid Spawning and Rearing Habitat	\$4,020	\$731
Salmonid Genetics	\$4,100	\$215
Feather River Fish Hatchery	\$0	\$1,750
Lower Feather River Fishery	\$0	\$1,055
Lake Oroville Fishery Management	\$0	\$234
Thermalito Afterbay Terrestrial Habitat	\$965	\$107
OWA Terrestrial Habitat	\$8	\$100
Vegetation and Wildlife Management	\$500	\$112
Water Quality	\$25	\$75
Recreation— P2100 (general, incl. trails, restrooms, wildfire evac. plan, law enforcement, final RMP, and monitoring)	\$994	\$616
Bidwell Canyon BR/Parking/Campground/DUA/Marina	\$9,268	\$775
Loafer Creek BR/DUA/Campground/Group Campground/Equestrian Campground	\$4,420	\$1,050

**Table D.4.7-2. Estimated costs for PM&E measures—
Proposed Action (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Lime Saddle BR/DUA/Campground/Marina	\$400	\$500
Spillway BR/DUA	\$50	\$625
Enterprise BR	\$3,500	\$200
Vinton Gulch Car-top BR	\$33	\$40
Dark Canyon Car-top BR	\$33	\$50
Foreman Creek Car-top BR	\$2,863	\$250
Stringtown Car-top BR	\$34	\$60
Lake Oroville Visitors Center	\$200	\$425
Saddle Dam Trailhead	\$113	\$50
Bloomer Area BICs	\$0	\$50
Goat Ranch BIC	\$0	\$50
Foreman Creek BIC	\$0	\$50
Craig Saddle BIC	\$0	\$50
Oroville Dam Overlook DUA	\$0	\$25
Floating Campsites and Floating Restrooms	\$50	\$435
Upper North Fork Arm and Poe Powerhouse	\$0	\$0
Diversion Pool DUA (West side)	\$200	\$50
Lakeland Boulevard Equestrian Staging, DUA and Trail Access	\$1,950	\$150
Recreation – Low Flow Channel/Feather River Fish Hatchery	\$30	\$50
North Thermalito Forebay	\$470	\$550
South Thermalito Forebay	\$200	\$115
Thermalito Afterbay—Wilbur Road BR	\$10	\$25
Thermalito Afterbay—Larkin Road Car-top BR	\$250	\$50
Thermalito Afterbay—Monument Hill BR/DUA	\$0	\$100
Model Aircraft Flying Area	\$27	\$25
OWA—Thermalito Afterbay Outlet BR/DUA/Campground	\$2,450	\$300
OWA Dispersed River and Pond Access Sites	\$350	\$20
Dispersed Use Sites	\$25	\$10
Cultural Resources	\$19,600	\$360
Land Use, Management, and Aesthetics	\$750	\$75
Annual Estimate of Future Recreation Capital Improvements and Replacements	\$0	\$1,000
TOTAL CAPITAL AND ANNUAL COST	\$70,018	\$12,640
LEVELIZED ANNUAL COST	\$17,727	

Notes: BIC = Boat-in Camp; BR = Boat Ramp; DUA = Day-Use Area
Source: developed by MWH

**Table D.4.7-3. Estimated costs for PM&E measures—
Alternative 2 (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Temperature Criteria/Targets	\$12,130	\$418
Natural Salmonid Spawning and Rearing Habitat	\$22,390	\$1,059
Salmonid Genetics	\$4,100	\$215
Feather River Fish Hatchery	\$32,500	\$2,350
Lower Feather River Fishery	\$8,000	\$1,105
Sport Fishery Management	\$0	\$234
Thermalito Afterbay Terrestrial Habitat	\$965	\$107
OWA Terrestrial Habitat same as PA	\$8	\$185
Vegetation and Wildlife Management	\$500	\$112
Water Quality same as PA	\$25	\$75
Recreation— P2100 (general, incl. trails, restrooms, wildfire evac. plan, law enforcement, final RMP, and monitoring)	\$1,094	\$750
Bidwell Canyon BR/Campground/DUA/Marina	\$11,268	\$912
Loafer Creek BR/DUA/Campground/Group Campground/Equestrian Campground	\$5,420	\$1050
Lime Saddle BR/DUA/Campground/Marina	\$3,460	\$575
Spillway BR/DUA	\$1,650	\$675
Enterprise BR	\$3,500	\$200
Vinton Gulch Car-top BR	\$33	\$40
Dark Canyon Car-top BR	\$33	\$50
Foreman Creek Car-top BR	\$2,863	\$250
Stringtown Car-top BR	\$334	\$70
Lake Oroville Visitors Center	\$200	425
Saddle Dam Trailhead	\$113	\$50
Bloomer Area BICs	\$0	\$50
Goat Ranch BIC	\$0	\$50
Foreman Creek BIC	\$0	\$50
Craig Saddle BIC	\$0	\$50
Oroville Dam Overlook DUA	\$64	\$75
Floating Campsites	\$450	\$510
Upper North Fork Arm below Poe Powerhouse	\$50	\$5
Diversion Pool DUA (West side)	\$33,600	\$550
Lakeland Boulevard Trailhead	\$1,950	\$150
Recreation – Low Flow Channel/Feather River Fish Hatchery	\$200	\$75
North Thermalito Forebay	\$470	\$550
South Thermalito Forebay	\$200	\$115
Thermalito Afterbay—Wilbur Road BR	\$10	\$25

**Table D.4.7-3. Estimated costs for PM&E measures—
Alternative 2 (\$1,000).**

Item	Capital Cost (\$1,000)	Annual Operating Cost (\$1,000)
Thermalito Afterbay—Larkin Road Car-top BR	\$250	\$50
Thermalito Afterbay—Monument Hill BR/DUA	\$0	\$100
Model Aircraft Flying Area	\$27	\$25
OWA—Thermalito Afterbay Outlet BR/DUA/Campground	\$2,450	\$300
OWA Dispersed River and Pond Access Sites	\$350	\$20
Dispersed Use Sites	\$25	\$10
Cultural Resources	\$19,650	\$360
Land Use, Management, and Aesthetics	\$850	\$125
Annual Estimate of Future Recreation Capital Improvements and Replacements	\$0	\$1,200
TOTAL	\$171,182	\$15,352
LEVELIZED ANNUAL COST	\$27,788	

Notes: BIC = Boat-in Camp; BR = Boat Ramp; DUA = Day-Use Area
Source: Developed by MWH

5.0 ANNUAL VALUE OF EXISTING OROVILLE FACILITIES POWER

Using FERC's economic criteria as outlined in the Developmental Analysis presented in Chapter 6.0 of the PDEA, the 30-year levelized annual power benefits of the existing Oroville Facilities (i.e. the "No-Action Alternative") are approximately \$45.09 per MWh based on CEC energy price forecasts and DWR's assumptions regarding future value of ancillary services derived through participation in CAISO. Subtracting the annual cost of operation and debt service payments results in a levelized annual net benefit of \$23.33 per MWh.

6.0 REVENUES AND FINANCING

The Oroville Facilities have been financed from the issuance of general obligation bonds, power revenue bonds, and Water System Revenue Bonds. The payment of the scheduled principal and interest on all outstanding bonds is secured by revenues received from SWP contractors pursuant to the payment provisions under the Water Supply Contracts.

DWR performs an annual financial analysis to ensure the Oroville Facilities will have sufficient funds to meet construction obligations; project operation; maintenance, power, and replacement costs; and debt service payments. DWR's annual financial analysis is available to the public at the following web site address:

<http://www.swpao.water.ca.gov>

DWR's financial information is included in Exhibit H and further demonstrates its ability to meet all potential obligations under the terms of the new license.

DWR continues to operate the Oroville Facilities in a cost efficient manner while meeting existing environmental and recreation commitments. See Bulletin 132-02 for further details.

7.0 COST OF LICENSE APPLICATION

The administrative cost of preparing the Oroville Facilities License Application is \$65 million.

8.0 ON-PEAK AND OFF-PEAK VALUES OF PROJECT POWER (2005)

The estimated average on-peak and off-peak value for Oroville Facilities energy is \$34.03/MWh and \$24.14/MWh, respectively. The on-peak energy value does not include the value of ancillary services which in 2005 would be approximately \$25.60/kW-Yr. For this analysis, the value of the power benefits from the Oroville Facilities is assumed to be equal to the price that would be paid for the same amount of power from an alternative source. Future inflation is assumed to be zero. The value of energy was assumed to be equal to the values projected for the ISO zones North of Path 15 (NP-15) by the California Energy Commission (CEC). Energy prices are projected to vary with the time of day, time of year, and future power market conditions. To estimate the total energy value for each alternative, time-of-day energy prices were applied to the time-of-day (or hourly) shape of the generation. This generation shape was derived from the historical hourly generation records for the Oroville Facilities for the period from 1998 through 2002. The estimated value of ancillary services was then added to the above energy values, based on the assumption that DWR will continue to participate in the California ISO ancillary services market in future years.

The operations modeling work conducted for the Oroville Facilities relicensing studies used current (2001) and future (2020) as the years for the level-of-development benchmark studies (refer to Appendix C). The FERC Guidelines require that the year in which the new license application is filed with FERC (in this case, 2005) be used as the base-case year in the developmental analysis and that the period of economic analysis be set at 30 years. Results of the above-mentioned benchmark modeling studies were used to derive the base-case annual generation amounts for the economic analyses of the No-Action Alternative, the Proposed Action, and Alternative 2.

The modeled annual net power generation figure of 2,334,000 MWh per year represents 2001 Existing Conditions. This value changes for each of the alternatives studied. The CALSIM II modeling provided energy estimates for each alternative. Then a detailed assessment was made of the time-of-day power price projections prepared by the CEC, as described above, and applied to these energy estimates in order to estimate future annual net energy benefits for each alternative. Ancillary service benefits were then added to arrive at a total annual net benefit for each alternative.

9.0 ANNUAL INCREASE OR DECREASE IN GENERATION AND POWER VALUES

9.1 GENERATION VALUES

Certain measures proposed or recommended by stakeholders during the relicensing effort would affect project economics by adding to the energy production costs (i.e., requiring new capital expenditures or additional annual costs for operation and maintenance.) Other measures considered under the alternatives would reduce future power production from the Oroville Facilities, thereby reducing annual power benefits. Table D.9.1-1 illustrates how proposed operational changes considered under the various alternatives would affect future power generation by the Oroville Facilities.

Table D.9.1-1. Effect of Alternatives on generation at the Oroville Facilities.

Alternative	Average Annual Generation (MWh)	
	Gross	Net
No-Action Alternative	2,708,000	2,318,100
Proposed Action	2,708,000	2,318,100
Alternative 2	2,697,000	2,310,300

9.2 POWER VALUES

Under the No-Action Alternative, there would be no funding of new PM&E measures beyond what is currently being provided or arising from existing legal obligations. The project would continue to provide 762 MW of capacity and generate a net average of approximately 2,318,100 MWh of electricity annually. This value of generation would be the same for the Proposed Action; however, under Alternative 2 this value reduces to 2,310,300 MWh due to increased flow releases into the LFC, bypassing Thermalito Pumping-Generating Plant. The differential amount of generation is 11,000 MWh (gross value, not accounting for offsetting pump-back energy requirements) and 7,800 MWh (net). The resulting 30-year levelized annual value of lost power generation, assuming a power value of \$45.09/MWh, is approximately \$496,000 (gross) and \$350,000 (net).

This page intentionally left blank.